

Abstract of the Disclosure

The present invention relates to a method for fabricating a semiconductor device with a fine pattern. The method includes the steps of: (a) forming a semiconductor substrate structure including a substrate, a nitride layer for forming a hard mask, a plurality of conductive patterns, an etch stop layer, an inter-layer insulation layer, an anti-reflective coating (ARC) layer and a photoresist pattern; (b) selectively etching the ARC layer and the nitride layer with use of the photoresist pattern as an etch mask to form a hard mask; (c) removing the photoresist pattern and the ARC layer; (d) etching the inter-layer insulation layer disposed between the conductive patterns by using the hard mask as an etch mask to form a contact hole exposing the etch stop layer; (e) removing the etch stop layer formed at a bottom area of the contact hole to expose the substrate; and (f) forming a plug electrically contacted to the exposed substrate, wherein the steps (b) and (d) to (e) proceeds in an in situ condition.